

Claims

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is as follows:

1. <sup>low smoke,</sup> A fire resistant carpet backing formulation, comprising:

- a) a polyurethane dispersion;
- b) fire retardant components having at least
  - a) ammonium polyphosphate,
  - b) melamine, and
  - c) a char former;
- c) solvents including water;
- d) filler, pigment and grinding aids; and
- e) surfactants.

2. A fire resistant carpet backing formulation according to claim 1, wherein the fire retardant components further comprises a flame poisoner.

3. A fire resistant carpet backing formulation according to claim 1, wherein the char former is a pentaerythritol.

4. A fire resistant carpet backing formulation according to claim 1, wherein the char former is a polysaccharide.

5. A fire resistant carpet backing formulation according to claim 1, wherein the polyurethane is selected from the group consisting of a polyurethane polyether, a polyurethane polyester and mixtures thereof.

6. A fire resistant carpet backing formulation according to claim 1, wherein the polyurethane is selected from the group consisting of an aliphatic polyurethane, an aromatic polyurethane and mixtures thereof.

7. A fire resistant carpet backing formulation according to claim 1, wherein the polyurethane dispersion is 18-30% by weight.

8. A fire resistant carpet backing formulation according to claim 1, wherein the fire retardant components of part (b) are 39-61% by weight.

9. A fire resistant carpet backing formulation according to claim 1, wherein the solvents of part (c) are 9-25% by weight.

10. A fire resistant carpet backing formulation according to claim 1, wherein the composition comprises by weight:

<u>Component</u>	<u>% Range</u>
PR-240 main dispersion	18-30
Water	5-15
2-Propanol	3-6
N-Methyl-2-Pyrrolidone	1-4
CT-131 dispersing agent	0.5-1.5
Lorana ECO R1 polysaccharide resin	4-9

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Melamine	7-13
FR Cros 484 Ammonium polyphosphate	25-35
Pentaerythritol	7-13
5099 black iron oxide	0.5-1.5
Dow Corning Antifoam "A"	0.01-1.00
Surfynol 465 surfactant	0.1-1.0
4% aqueous dispersion of Rheox Bentone A. D.	2-6

11. A fire resistant carpet backing formulation according to claim 1, wherein the composition comprises by weight:

resin

1	PR-240 main dispersion	22.00
6	Lorana ECO R1	7.00

fire retardant components

7	Melamine	10.00
8	FR Cros 484 Ammonium polyphosphate	30.00
9	Pentaerythritol (char former)	10.00

solvents for permitting flow of the composition

2	Water	8.75
3	2-Propanol	4.00
4	N-Methyl-2-Pyrrolidone	1.70

surfactants for the composition

11	Dow Corning Antifoam "A"	0.05
12	Surfynol 465 surfactant	0.50

fillers, pigments and anti-settling and grinding aid

5	CT-131 dispersing agent	1.00
10	5099 black iron oxide	1.00
13	4% aqueous dispersion of Rheox	4.00

12. A fire retardant nylon carpet having a backing component made from the fire resistant carpet backing formulation of claim 1.

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claim 10.

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15. A fire retardant nylon carpet, comprising:

a nylon carpet and backing thereon that meets the Airbus ATS 1000.001/ABD 0031 issue 5 smoke emission and toxic gas standards.

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